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Wildlife

IN NORTH CAROLINA

TEN CENTS

JUNE 1949

Photo By Jack Dermid

IT WILL BE A LONG WAIT UNTIL NEXT FALL

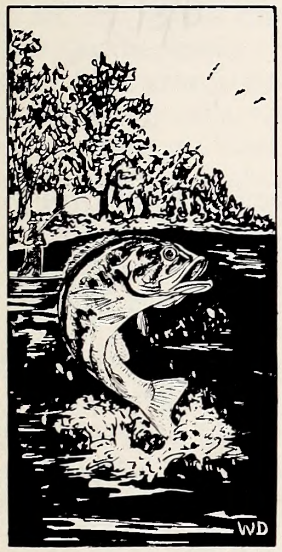
—but during the breeding season for game, conscientious dog owners will keep their hunting dogs confined to prevent them from ranging the fields and woodlands, destroying the nests of rabbits and quail, and killing deer. BE SURE YOUR DOG IS NOT GUILTY OF FREE-HUNTING!

Wildlife IN NORTH CAROLINA

The Official Publication of The North Carolina Wildlife Resources Commission, Raleigh

A monthly magazine devoted to the protection and restoration of our Wildlife Resources and to the improvement of hunting and fishing in North Carolina

STATE OF NORTH CAROLINA
W. KERR SCOTT
Governor



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COVER

This months cover is from another of Artist Win Donat's oil paintings. The birds pictured are the passenger pigeon, a once numerous species which is now extinct. Donat used as models a pair of mounted birds in the State Museum.

★ ★ ★

This is our first issue under our new printing contract, and we are happy to announce that we are now able to produce a magazine with heavier paper stock, and from time to time four color cover pictures and other improvements. As our rapidly expanding list of readers grows our magazine will grow. We thank our readers for their many fine encouraging letters.

★ ★ ★

Wildlife in North Carolina recognizes the need for close cooperation between State and Federal conservation agencies and the people who hunt and fish—to bring about a restoration of our renewable resources. The Editor gratefully receives for publication all news items, articles, photographs, and other material dealing with the various activities which combine to make North Carolina a better state for hunting and fishing. Full credit is given for all material published.

★ ★ ★

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Several organized sportsmen's groups over the state have taken advantage of the Club Plan for subscribing to Wildlife In North Carolina by sending in blocks of 25 or more subscriptions. Under this plan subscribers receive the magazine at a twenty percent discount, or forty cents per year instead of the regular price of fifty cents per year. The price for two-year subscriptions under the Club Plan is eighty cents instead of one dollar. Other clubs are urged to take advantage of this plan.

Rod Amundson, *Editor.*

LET'S LEARN ABOUT OUR WILDLIFE

The Fifth of a Series on Game Birds and Game Mammals

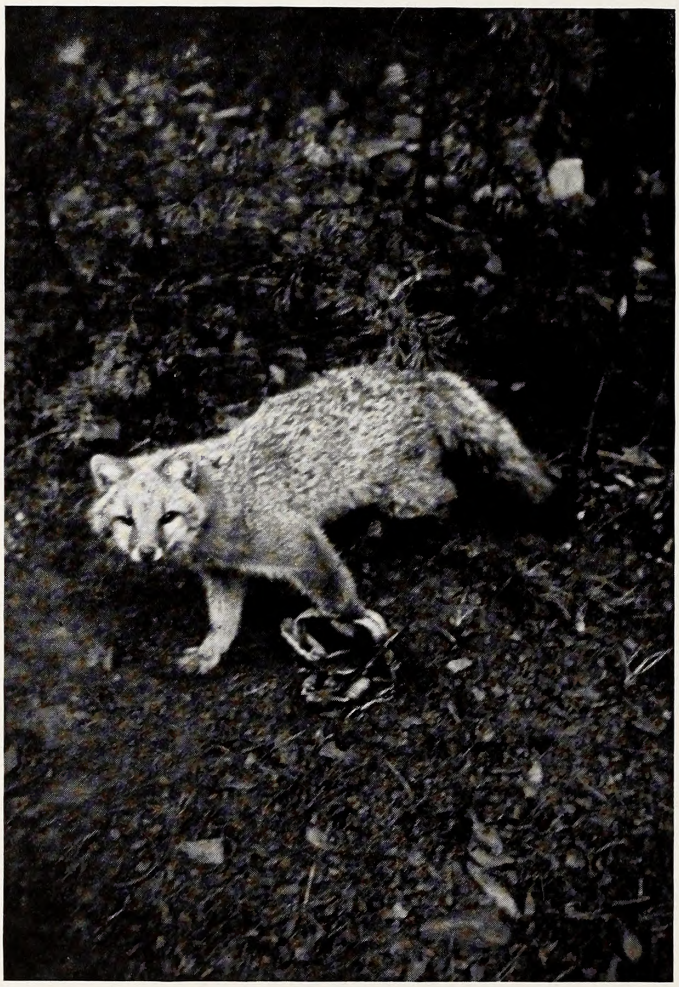
THE FOXES

By Rod Amundson

IF someone says you are "crazy—like a fox," consider yourself complimented. Remember the tales of the "The Fox and the Grapes," "The Fox and the Wolf," and other immortal parables by Aesop? These testify to the intelligence and cunning of the fox.

No other North Carolina animal is subject to more pro and con discussion than the fox. Fox hunters love the species. Quail and rabbit hunters are all-out for wholesale and complete extermination of foxes. Much of the invective directed against foxes is completely groundless. The fox cannot be compared with a saint, and at the same time should not be condemned as a criminal. His living habits place him somewhere between the two extremes, although he will often shift from one extreme to the other.

North Carolina is blessed—or cursed—with two species of foxes, depending on the individual attitude toward the breed. Most abundant is the gray fox, *Urocyon cineroargenteus,* (which, translated loosely from Greek, means "ashy-silver dog tail"). Less common is the red fox, *Vulpes fulva,* (Latin for "yellow fox"). Because of many similarities between the two animals, they will be discussed together and important differences pointed out.



A trapped animal is never a pleasant sight. Fox hunters do not like to trap foxes, but frequently trapping is necessary to eliminate foxes which raid poultry yards. The above is a gray fox.

History

Like many other animals, foxes play an important part in the literature of the world. Aesop composed his famous fables many years before the birth of Christ. Many legends have sprung up regarding the fox, some so persistently that it is difficult to separate them from actual fact. Perhaps the most interesting one is also the greatest tribute to the foxes' cunning. It has to do with the unique manner of getting rid of fleas. The fox takes a tuft of wool in his mouth and wades slowly out into a pond or stream, giving his parasitic lodgers time to make their way up toward the back and head to keep dry. As the fox slowly submerges, the fleas are forced forward to the tip of the nose, and finally crawl into the tuft of wool. When the fox is completely immersed the fleas are left stranded in the wool and the fox is rid of the infestation. The Encyclopedia Britannica gives considerable credence to this legend.

Civilization, to a limited degree, has benefitted the fox. Both the red and the gray prefer an open timber habitat, and the clearing of land for agriculture has created a suitable environment in this state. The value of fox furs was recognized by early settlers, and huge quantities were obtained from the Indians and shipped to Europe. The fur of the red fox is far superior to that of the gray in color and texture. Due to the levying of luxury taxes on fur trimmed garments, the demand

for fox furs has been very low in recent years.

General Description

Other than to point out certain differences between red and gray foxes, a description of the species is not necessary. The gray is the smaller of the two animals, ranging from seven to eleven pounds; the red fox ranges from eight to fourteen pounds. Although the smaller of the two, the gray fox has longer legs, proportionately. Both have characteristically bushy tails, erect, pointed ears, and rather long, pointed muzzles. There are so many color variations among individuals that often an examination of the skull is necessary for accurate identification. Red foxes may produce color variants in the same litter, with normal, silver, and cross variations in the same brood. The furs of silver foxes, raised in captivity and once highly prized by fashionable women, are nothing more than a color variation of the red fox. The same is true of black and cross foxes. The brick-red of the underparts of gray foxes sometimes extends up over the back, giving an appearance very similar to the red species.

Breeding Habits

Both red and gray foxes are den animals, and the dens may be anything from hollow trees to crevices in rocks to burrows in the ground. Both species will use the dens of badgers and woodchucks when such dens are convenient. The gray, however, is the most consistent denner.

In these dens the young are born, from two to five per litter in the gray fox and from three to ten in the red. Only one litter per year is born, and birth usually takes place in April or May, although March litters are not uncommon in North Carolina.

At birth foxes are fully developed except that the eyes do not open for several days. Usually they remain within the dark interior of the den until their eyes have opened and they have gained sufficient growth and vigor to make their way out to the sunny slopes where the dens are usually located. Their first appearance into the world of sunshine is about six weeks after birth. At this time they are old enough to eat solid foods, and it becomes a duty and a task for both parents to bring home a variety of foods which are obtained on foraging expeditions about the countryside. There are definite and close family ties throughout the breeding season. Once a female fox has accepted a mate, the pair remain together until the final breaking-up of the family during the fall months.

Young foxes closely resemble puppies in general behavior. They are extremely playful and spend hours on sunny hillsides near the den, wrestling and playing together, executing miniature battles and playing tug-of-war with sticks and bones.

Food Habits

Although foxes are classified as carnivores (meat-eating) their food is obtained from a wide variety of sources. If their food were confined only to the acorns, berries, fruits, and other vegative matter that is frequently included in their diet, foxes would not present the serious game management problem that their habits have created. The vast range of foods which appeal to the palate of the fox lets him in for considerable difficulty. In any discussion of the food habits of the fox, it should be remembered that they are like any other animal, human beings included: they are inherently lazy, and following the line of least resistance, will reap benefit from the livelihood that is most easily obtained. Here are some of the more important items in the fox diet, although not necessarily in the order of importance: mice, rabbits, moles, shrews, woodchucks, snakes, lizards, frogs, crayfish, birds (any kind the fox can catch), newborn lambs, poultry, small turtles, shrimps, field corn, acorns, fruits, berries, and even roots and grasses.

The above list of foods, although incomplete, holds the key to why foxes can be considered valuable animals as well as pests. If foxes were to be suddenly and completely eliminated from the list of North Carolina's animals, the agriculture of the State would soon be in a state of complete collapse. As mentioned before, foxes take foods which are most readily obtainable. The most abundant of fox

The red fox is a paragon of cunning. His fur is softer than that of the gray, and he is more desirable as a game animal.—Photo courtesy Pennsylvania Game Commission).

The salt-and-pepper of the gray fox readily distinguishes him from the red variety.—(Photo courtesy Pennsylvania Game Commission).

foods are rodents. Rodents are notorious destroyers of crops. If foxes did not keep rodent populations in check it would be impossible to raise any kind of field crop with the possible exception of tobacco. It appears that a few quail and chickens taken by foxes now and then are a small price indeed to pay for the protection to crops given by the rodent-consuming habit of foxes.

Rabbits are an important item in the diet of foxes, but this fact is by no means sufficient to warrant the wholesale destruction of foxes by hunters who enjoy rabbit shooting as their favorite sport. Rabbits are extremely prolific, and game census surveys carried on scientifically by Wildlife Resources Commission personnel have shown that both rabbit and foxes are abundant in many identical localities.* A shortage of foxes might easily cause an increase in rabbit populations to the damage point.

Thousands of dollars have been spent in many states, including North Carolina, on studies of fox food habits. Trained scientists have analyzed the contents of the stomachs of foxes taken throughout the United States during every month of the year. None of the analyses have indicated that game birds of any kind appear with dangerous frequency in the fox diet. Foxes do eat quail, when quail happen to be a convenient source of food. They also take ruffed grouse and undoubtedly kill an occasional wild turkey. It must be admitted, however, that foxes and quail and turkeys existed and got along quite well together in this country long before the New World was ever dreamed of, and Man's interference with the natural balance among wildlife species does not justify the willful extermination of any particular species regardless of how damaging one species might seem to be to another.

*See page 6, February, 1949 Issue.

To refer again to the concept that foxes prefer foods which are readily obtainable, poultry raisers who have suffered nocturnal raids on their poultry houses find it difficult to give the fox a place among desirable wildlife species. When a fox discovers that an abundance of food is available by the simple means of snatching a hen from the poultry roost, the roost is likely to be visited with considerable frequency. In such cases it is necessary to destroy foxes in order to protect property. Fortunately, relatively few foxes acquire a taste for poultry or the knowledge that barnyard fowl are easily attainable. The destruction of these few foxes usually corrects the situation locally.

Management

THE management of a species which is subject to so much controversy among sportsmen and farmers resolves itself almost entirely to a problem of public relations. Somehow quail and rabbit hunters must be convinced that in ordinary circumstances the presence of an abundance of foxes does not mean that rabbits and quail are placed in danger of extinction. At the same time, fox hunters, who naturally are interested in maintaining a high fox population, must realize that an over-abundance of foxes might upset an already precarious natural balance among species whereby foxes might destroy their food supply and thus destroy themselves. Farmers will tolerate foxes only so long as they do not prey on poultry, and under the U. S. Constitution, have a right to destroy marauding foxes at any time and in any manner. But they should remember that a few erring individuals do not warrant condemnation of the entire species.

Biologists have learned that there is never any justification for the wholesale slaughter of any species, regardless of how undesirable the species may become in isolated instances. Slowly but surely sportsmen throughout the country are coming to the conclusion that money spent for bounties and wholesale predator control is sheer waste.

Where fox populations (particularly the red fox) are not sufficient to supply the needs of fox hunters, protective measures become necessary, and importation should at least be tolerated. Where an over-abundance of foxes occurs, control measures should be instituted—but never with complete annihilation as an objective.

The crux of fox management lies in determining the level at which fox populations should be maintained ,and then getting diversified factions of public opinion to cooperate.

Hunting and Trapping

THE sport of fox hunting is second only to falconry in antiquity, having been practiced in Europe for centuries. In general, North Carolina fox hunting has not reached the social pinnacle of

pink coats and purebred Hunter mounts, but the number of fox hunting organizations and fox hunting sportsmen attests to the popularity of the sport in this State, particularly in the Piedmont and Mountain sections. There are varied manners and codes of ethics in North Carolina fox hunting, but for the most part the enjoyment of the sport comes from the fellowship of the hunters and the pride they take in the voice and stamina of their dogs. The foxes are sometimes killed by the dogs, but as often as not, the fox escapes to be put up and run another day, and a hunter who shoots a fox is in danger of permanent ostracism from his society.

Anyone who has participated in a fox hunt can well understand why fox hunters love their sport, and why fox hunters are interested in the perpetuation of the species even to the point of importing foxes to stock certain areas.

Fox hunts usually begin with the mutual consent of dog owners who meet at an appointed stand with the dogs and release the pack at one time. While the dogs are ranging about the woods and fields in search of a scent, the owners build a fire and sit down to await the rhapsodic symphony of music which begins when a fox is put to flight. Lulls in the music, when the fox has led the hounds out of earshot, are filled with tales of fabulous feats accomplished by the dogs of justly proud owners. The friendly campfire repartee is often interrupted by the belling of the hounds as the fox approaches the starting site. Most dog owners can, or at least claim they can, tell their own dogs by the sound of their voices, and as the pack and the prey pass out of earshot again, arguments are apt to arise as to whose dog or dogs are in the lead.

Sometimes the pack kills the fox and the tail is cherished as a trophy. But more often the fox gets away, and the remainder of the night is spent in an attempt to assemble together wandering dogs.

The red fox is considered by hunters to be far superior as a game animal to the gray. Gray foxes frequently take to trees, or are easily overtaken and killed by dogs, thus putting a quick end to the nocturnal opera of the chase. Red foxes, on the other hand, because of their cunning and stamina, may lead hounds in circles throughout the night, or far into the next county.

Quail and rabbit hunters have often become alarmed and irate because fox hunters in some parts of the state have imported red foxes to be released as a replacement to real or imaginary shortages of red foxes. It is extremely doubtful whether such importations can have an important effect on fox populations and the relation of foxes to other game. When it is considered that the total fox population of the state probably numbers in the hundreds of thousands, a few dozens of red foxes added by importation cannot have any significant influence.

Trapping of foxes is frowned upon by fox hunters for obvious reasons, although it may become necessary in situations where foxes prey on domestic poultry. Fox trapping is a highly specialized art, and only expert trappers secure more than insignificant results. The fox trapper must have a thorough knowledge of the living habits of foxes, plus a healthy respect for their keen senses and cunning intelligence.

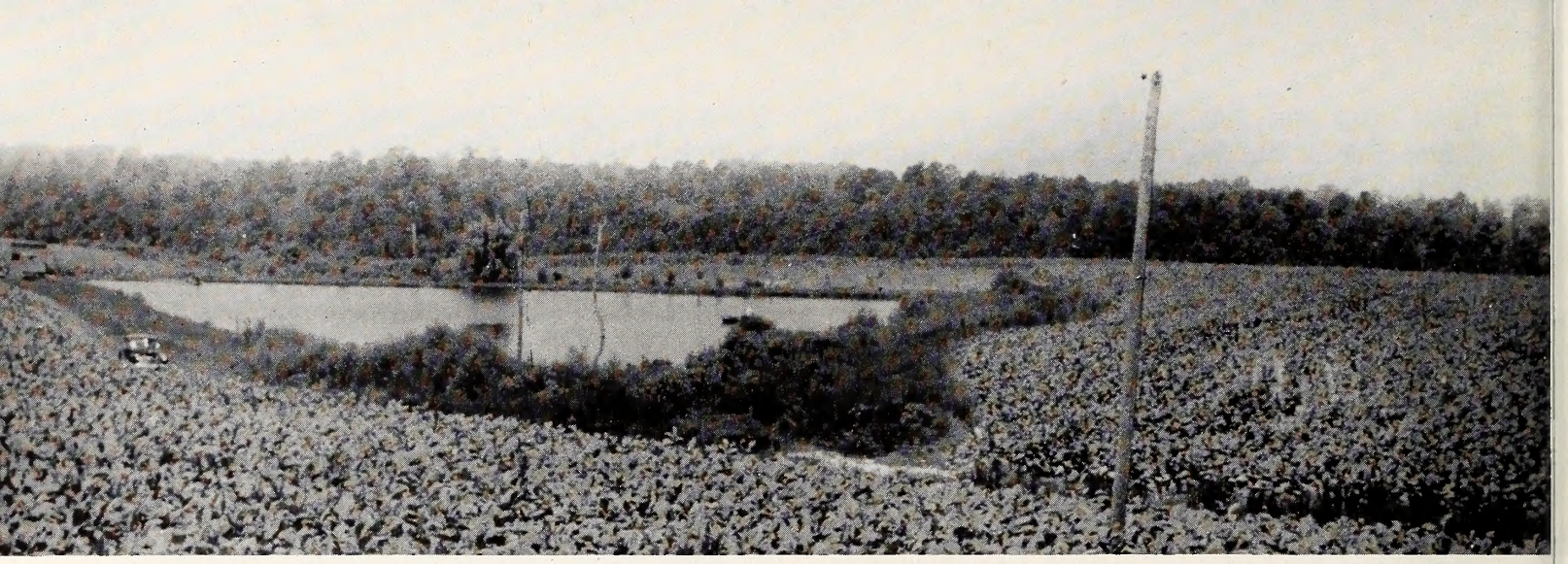
Enemies

Foxes in North Carolina have few enemies other than men and dogs. Horned owls are capable of carrying off kits, and an occasional kit may be killed by wildcats. If the story about the fox and the tuft of wool is to be believed, foxes can take care of their external parasites such as fleas. Healthy foxes, like other healthy animals, are almost never subject to serious infestations of either external or internal parasites.

There are a number of cases on record of foxes being afflicted with tularemia ,and there have been several serious outbreaks of rabies in North Carolina. Rabies are usually a rare affliction, but an outbreak of the disease in areas of high fox populations can be extremely dangerous to people and domestic animals.

As is the case with all other wildlife species, Nature uses disease as a means of controlling excessive fox populations. Peak populations of foxes are invariably attended by outbreaks of diseases. Man's efforts to control fox populations by deliberate attemps at extermination time and again have been proven to be a useless expenditure of energy and money. Without the meddlesome finger of Man, Nature will provide plenty of foxes for devotees of the sport of fox hunting, and at the same time prevent foxes from destroying other game populations.

Young foxes, called "kits" resemble puppies, and spend hours around the home den. Although these are only about six weeks old, they already have an appearance of cunning.—(Photo courtesy Pennsylvania Game Commission).



This fish pond on the M. G. Brooks farm, Fuquay Springs, N. C., utilizes a plot of ground which was too wet to cultivate. This is a good example of proper land use.

CONSERVATION FARMERS USE LAND FOR WILDLIFE

By Alexander H. Veazey*

Soil Conservation Service Photographs

On most North Carolina farms there are good lands, poor lands, eroded lands, lands that are tired and sick, and parcels of land that is unused and ill shaped. Some of these lands, like our wildlife friends, have been neglected and poorly managed.

Farmers, cooperating with soil conservation districts in North Carolina, are beginning to do something about keeping the good land good and giving the poor and eroded land a new look. They are giving better treatment to the tired and sick lands. Some of the bad and ill shaped lands that cannot be used profitably for cotton, corn, tobacco and other farm crops, are improved for the game animals, birds and fishes to use. It is on these non-cropland areas that farmers are building fish ponds and producing food for birds and other wildlife.

It is true that all farm ponds are not on submarginal land, but in most cases they are. They are usually located on ravines or small bottom areas, which are not suited for growing regular farm crops or timber. In the past the farmers have gotten little or no return from these lands. Now that they are used for ponds, they produce food on them.

The fish they catch out of a pond and use for food is only a part of the value and satisfaction the farmer gets from these ponds. The recreation it provides, the beauty to the farm, and the fact that it conserves water up-stream adds much to their desirability. Pond owners who seldom ever fished heretofore soon become ardent sportsmen with the pole and rod. Some farmers report around 300 pounds of fish caught per acre of pond during one year. Farm ponds are also used by some farmers for watering livestock and as a reservoir of water for irrigation purposes.

Strips of cropland bordering woods, in most cases, grow crops that look stunted and yield little food, fiber, or tobacco. When such places are called to their attention, farmers say "we never grow good crops in these strips." It suits them to plant borders for bird food. Also, in many cases the land is erod-

Bi-color lespedeza plantings between fields and woodlands provide quail and rabbit habitat on otherwise waste land.

"JOE BEAVER" By Ed Nofziger

Forest Service, U. S. Department of Agriculture

"Why doesn't Farmer Brown try contour farming?"

ing at the row ends and the planting of crops like bicolor lespedeza will assist in stopping erosion. Each strip is designed to provide enough food for one convey of quail and provide it at the season of the year (all winter) when there is little other food available for them.

On some farms of the state, and especially in the Coastal Plain section, there are open spaces in the woods where strips of bicolor lespedeza have been planted and, with proper treatment and fertilization, they produce good yields of bird food. Bicolor will not, however, grow well on poorly drained lands. Spoil banks formed from the construction of canals and ditches for drainage, however, are providing satisfactory places for growing bicolor lespedeza when located in woods or on idle land. Open fields not being used for farm crops also provide an excellent place for growing this plant. Sportsman and farmer have found that bird hunting is more satisfactory if bicolor is planted in strips around fifteen feet wide, each strip long enough to provide sufficient food for a covey of birds. Many farmers tell us that even though they never do any hunting, they like to have quail on the farm—and are growing food for them in such areas as described above.

The farm pond and bicolor lespedeza strips are a part of the complete soil and water conservation farm plan made with the assistance of the Soil Conservation Service technician, who is assigned to assist the district supervisors. The pond is laid out and specifications made for the construction by the same technician. If ponds are properly built, little trouble is ever had with them. Proper stocking with bass and bream, and proper fertilization of the water after being stocked is specified and emphasized when the pond is built. The bicolor strips are also laid out for the farmer and instructions given for their planting, fertilization and management.

Farmers in soil conservation districts in North Carolina are making progress in improving the wildlife resources of the state by utilizing these low-grade non-agricultural lands on their farms for producing fish and birds. Up to the first of this year, there had been 2,642 ponds constructed and stocked with bass and bream on farms in the state. More than 7,000 acres of the low grade lands previously described are being used to produce food for quail and other wildlife. Even though the above accomplishments have made a considerable contribution to the wildlife development in the state, much work is needed for this program to blossom fully. District Supervisors, realizing the value and possibilities of this program on farms, have projected an increase of it for the future.

The North Carolina Wildlife Resources Commission encourages this land-use approach to farm-game restoration by supplying soil conservation districts with bicolor seed and plants free of charge. It is a healthy and promising sign when part of the funds contributed by sportsmen are spent to PRODUCE more game. Plantings of food (and sometimes cover) is a major step in game management.

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*Mr. Veazey is Zone Conservationist supervising technical work of the Soil Conservation Service in the Coastal halves of Virginia and North Carolina.

Bi-color lespedeza strips in open woodlands have been so successful as quail producers that bird dogs learn to look for these strips to put up coveys. Each strip should be big enough to support a covey of birds.

NATIONAL WILDLIFE NEWS

PROPOSAL WOULD VIOLATE STATES' RIGHTS

The House Agriculture Appropriations Committee has made recommendations in its appropriations bill for the fiscal year 1950 which ignore states' rights to regulate hunting on national forests, according to the Wildlife Management Institute.

The report states:

> "In many instances, the foraging in the national forests of deer, elk, and other wild game amounts to depredation. While it is believed the Forest Service, through its employees, has full authority to kill wild game on the forests necessary to protect the forests from depredation, it has not been done. The more practical method would be to increase the number of hunting licenses issued, and increase the bag limit, particularly with respect to the shooting of doe. Such authority at present lies exclusively with the States within which the national forest lands are situated. It is possible that Federal legislation, if enacted, would permit the Forest Service to issue hunting licenses, fix bag limits, et cetera, within the boundaries of the national forests to the extent that would bring this situation under control. The committee has no knowledge that the Forest Service has ever proposed or recommended any measure of this sort."

Under policies established for the management of national forests, the regulation of hunting has been left to the states in which the individual forests are located. Sportsmen and game officials in the various states are certain to oppose this proposal vigorously as an infringement of states' rights. Little would be accomplished other than to destroy a working cooperative agreement of long standing; and cooperation between the individual states and the Federal Government in the management of the national forests is more vital now than at any time in their history.

A highly desirable proposal was offered in the same bill, however, when the Committee proposed that funds ear-marked for wildlife management on the national forests be reinstated. Specific funds for this purpose were removed in 1948 from the Forest Service appropriation. The present committee believes that the "practices which the Forest Service has been compelled to follow because of the action taken two years ago are not sound budget practice." The Forest Service is charged with the care and maintenance of wildlife range on the national forests and the committee indicated that a specific appropriation should be allocated for this purpose. The Committee instructed the Bureau of the Budget and the Forest Service to include such an item in the 1951 budget request. Conservation organizations have asked for the reinstatement of funds for wildlife management on national forests for the last two years.

WILDLIFE ON UPSWING THROUGHOUT COUNTRY

Reports from over the nation indicate that small-game populations in most sections are on the upswing of their periodic cycles, according to the Wildlife Management Institute.

The U. S. Fish and Wildlife Service's annual winter inventory disclosed substantial increases of waterfowl in all four flyways. Nearly all waterfowl species except mergansers and shovellers increased in numbers. A mild winter throughout its wintering range favored the woodcock, which made a strong comeback last season over the previous two years. The still mysterious regular cycle of the ruffed grouse turned the bottom corner two years ago and populations now appear to be building up in the Northeast toward another "high." The mild open winter which the East enjoyed this year favored the bobwhite throughout most of its range.

The hardier pheasant survived the severe western blizzards better than most expected, according to reports from the Plains States. Provided the nesting season is favorable there is little reason to believe that the climb from the crash decline of two years ago will be more than momentarily and locally checked.

If Nature favors the North American continent with normal weather during the next few months, sportsmen should be able to look forward to a successful small-game hunting season next fall.

CURE FOR SPOTTED FEVER

Two new antibiotics, auremycin and chloromycin, have been discovered which show promise of effecting cures for the dreaded Rocky Mountain spotted fever, the Wildlife Management Institute learns from the U. S. Public Health Service.

Neither drug has been completely tested although excellent results on 20 cases are reported. The tick-transmitted fever presents one of the most feared hazards of the outdoorsman in a large part of North America. While reluctant to predict that these drugs will cure tularemia as well, the Service indicated that good results have been obtained in experiments with infected animals. In its methodical, close-mouthed way, the medical profession is making strides toward mitigating this scourge of the small-game hunter.

NORTH CAROLINA WILDLIFE

RESOURCE-O-GRAM

A ROUNDUP OF THE LATEST WILDLIFE NEWS

FISH AND GAME LAW VIOLATIONS DURING THE MONTH OF APRIL EXCEEDED ALL PREVIOUS RECORDS FOR THAT MONTH, ACCORDING TO CLYDE P. PATTON, EXECUTIVE DIRECTOR OF THE WILDLIFE RESOURCES COMMISSION. MOST FREQUENT VIOLATIONS INVOLVED FISHING WITHOUT PROPER LICENSE. OTHER CASES INCLUDED ILLEGAL SEINING AND NETTING OF FISH, DYNAMITING FISH, AND TAKING WATERFOWL OUT OF SEASON. THE WILDLIFE RESOURCES COMMISSION'S LAW ENFORCEMENT STAFF HAS BEEN ORDERED TO CRACK DOWN ON PERSONS FISHING WITHOUT LICENSES AND ON ALL OTHER LAW VIOLATIONS. WARREN LUPTON, CHIEF OF THE COMMISSION'S LAW ENFORCEMENT STAFF, BELIEVES THAT THE HIGH MARK FOR PROSECUTIONS SET IN APRIL IS DUE TO GREATER EFFICIENCY OF THE LAW ENFORCEMENT STAFF RATHER THAN A MORE CARELESS ATTITUDE ON THE PART OF HUNTERS AND FISHERMEN.

A SERIES OF MEETINGS IN EACH OF THE NINE COMMISSION DISTRICTS WILL GIVE LOCAL HUNTERS AND FISHERMEN AN OPPORTUNITY TO AIR THEIR VIEWS REGARDING THE TENTATIVE HUNTING REGULATIONS FOR THE 1949-1950 SEASON SET RECENTLY BY THE COMMISSION. AFTER HEARING AND CONSIDERING THE OPINIONS OF SPORTSMEN EARLY IN JUNE THE COMMISSION WILL MEET IN RALEIGH ON JUNE 13 TO ESTABLISH THE REGULATIONS WHICH WILL BE IN FORCE THIS FALL AND WINTER.

MORE THAN TWO MILLIONS OF ROCKFISH WERE HATCHED AT THE HATCHERY IN WELDON THIS SPRING DURING THE ROCKFISH RUN. HEAVY RAINS RESULTING IN HIGH, MUDDY WATER PREVENTED FISHERMEN FROM BRINGING HOME MORE SPAWNERS TO THE HATCHERY FOR STRIPPING. THE ROCKFISH RUN THIS YEAR WAS CONSIDERED POOR FROM A SPORTS FISHING ANGLE, SINCE MUDDY WATER MADE TROLLING VIRTUALLY IMPOSSIBLE. NET FISHERMEN MET WITH ONLY FAIR SUCCESS.

THERE IS A MOVEMENT AFOOT AMONG CONSERVATIONISTS TO HONOR J. N. (DING) DARLING, WORLD RENOWED CARTOONIST AND CONSERVATIONIST, BY PLACING HIS PORTRAIT ON THE 1950 DUCK STAMP. WITH HIS INCISIVE CARTOONS DARLING DID MORE THAN ANY ONE PERSON TO AWAKEN THE U. S. PUBLIC TO THE DANGEROUS STATUS OF THE NORTH AMERICAN WATERFOWL POPULATION. "DING" HAS RETIRED FROM ACTIVE LIFE. HE IS A FORMER CHIEF OF THE U. S. BIOLOGICAL SURVEY, NOW CALLED THE U. S. FISH AND WILDLIFE SERVICE.

THE EDUCATION DIVISION OF THE WILDLIFE RESOURCES COMMISSION IS PRINTING A SUPPLY OF MEMBERSHIP CARDS TO BE USED BY JUNIOR WILDLIFE CLUBS OVER THE STATE. THE CARDS MAY BE OBTAINED BY WRITING DIRECTLY TO THE EDUCATION DIVISION, WILDLIFE RESOURCES COMMISSION, BOX 2919, RALEIGH, AND STATING THE NAME AND MEMBERSHIP OF THE CLUB. SENIOR WILDLIFE MEMBERS ARE URGED TO FORM JUNIOR CLUBS TO PROVIDE RECREATION AND EDUCATION ACTIVITIES FOR CITY AND RURAL YOUNGSTERS.

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1. Great game birds these! Their lound resonant calls and characteristic flight formations excite even the veteran waterfowl hunter.

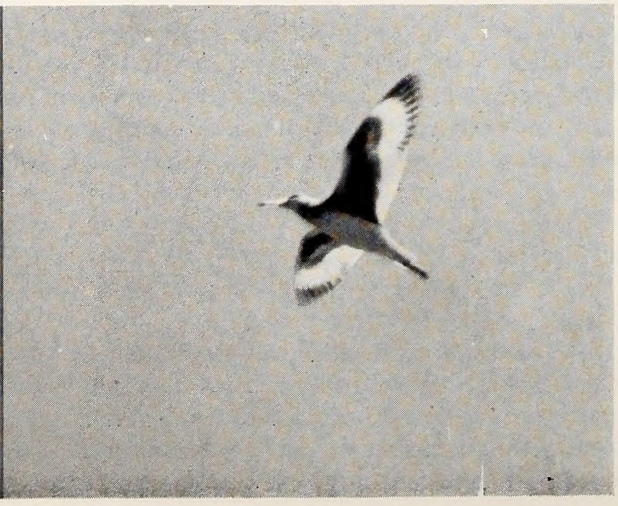
2. The fruits of this vine are as strange as the flowers, popping underfoot when green and offering refreshment to the thirsty hunter when ripe.

If you can identify the subjects of all of these pictures, you can consider yourself an expert naturalist. If you guess only half of them, you may consider yourself a keen observer of wildlife forms. A score of seven right answers is good, eight—excellent!

5. This rat is common in old fields, where it often destroys quail nests. Its chunky figure and coarse fur are distinctive.

7. Golf balls? Hardly. These clusters of cones are found on a tree that grows in the swamps of the coastal plain.

8. Common along our coast in summer, this bird quickly challenges the intruder of its nesting grounds with shrill cries. Note the wing markings.



By
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3. Beware! The creature of the night woods should heed the warning, for this youngster will soon grow up and don its feathered horns.

4. Although awkward and heavy in appearance, this mammal can climb trees with surprising ease. Honey is a favored item in its varied diet.

6. The leaves are a key to the size fo these tracks. Every farm boy has followed the ramblings of this animal along the edge of the creek.

Write Your Answers Here

1. .....
2. .....
3. .....
4. .....
5. .....
6. .....
7. .....
8. .....
9. .....
10. .....

Check Your Score On Page 19

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9. Sure, its a young gray squirril, but can you name the tree it is clinging to by the silhoutte of the long, pointed buds?

10. Maybe this animal is emerging from its winter sleep in the mud. During the summer it can be found wandering about on land.

MUSKRAT MANAGEMENT

IN THE

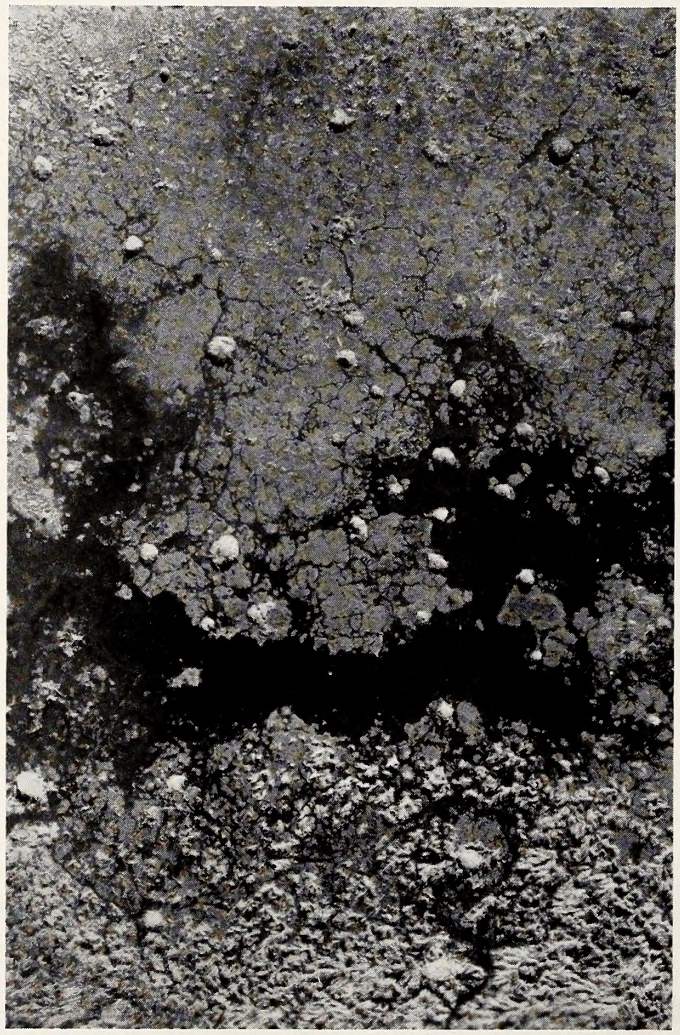
NORTHWEST RIVER MARSH

By Ken Wilson

Fur Resources Project Leader, Federal Aid

THE nation's most important furbearer: millions of pelts harvested every year, millions of dollars to the trapper and the farmer, thousands of people employed by the garment makers, thousands of muskrat coats tailored to keep the ladies in style and comfort. A multi-million dollar resource that last year in North Carolina yielded more than 100,000 muskrats worth nearly $240,000; a resource that annually replenishes itself without effort to anyone, a resource many trappers have taken for granted, exploited and ruthlessly trapped until its numbers have been drastically reduced over much of the State.

Nowadays we hear and read a lot about our natural resources and their management; farm management, forest management, game management; managing the farm for bigger crop production, managing the forest for larger timber yields, managing the game for more quail, rabbits, wild turkeys, deer and other wildlife for the hunter to hunt. And now in North Carolina the management list includes the muskrat, a furbearing animal.



This aerial photo shows a large segment of muskrate marsh along the Outer Banks. The 40 muskrat houses in the picture would not be there if water level had not been controlled.

State game administrators for years, however, have shown an active interest in all the furbearers. When otters decreased, trapping them was forbidden by law until trappable surpluses became available again. Other laws have been passed requiring an annual report from the fur dealer of the numbers of furs bought. The fur dealer is required to buy a license before furs can be bought and the trapper is also required to buy a license. Over the years these funds have accumulated and today they are being used under the provisions of the Federal Aid In Wildlife Restoration Act to finance management investigations with the muskrat.

Preliminary to the work being planned and conducted today, fur resource surveys made in recent years showed the expected ups and downs in fur animal yields and a steady downward trend in pelts of the more important fur species and especially the muskrat. Some of the reasons for this reduction are overtrapping, drainage and the yearly shrinkage of productive tidal marsh resulting from invading forest and other vegetation of no value to muskrats. The number of muskrats that any habitat will support is largely determined by the types of vegetation and water supply. Surveys made with these factors in mind make it appear that large segments of coastal tidal marsh are poor muskrat producers not because they lack food but because of drastic irregularities in water levels. Other sections of the State showed areas that appeared to

be just the spot for muskrats but the food was missing. In other areas it appeared that the construction of small dams and the planting of cattails would create productive muskrat habitat. But dams cost money and experiments based upon what we think have never been conducted by the Wildlife Resources Commission; therefore, until the worthwhileness of such projects have been proven it would be imprudent to spread for facts what might be theory.

Management Proving Ground Purchased

The acquisition of an 800-acre tract of marsh and woodland along the Northwest River two miles east of Moyock in Currituck County by the Wildlife Resources Commission in 1948 resulted in the establishment of the Northwest River Marsh Refuge. This spring, upon the completion of field headquarters and a boat house, the first Fur Animal Field Station in North Carolina history will be equipped and ready for use. One biologist with an occasional North Carolina State College student summer assistant and labor when needed will conduct investigations work with the muskrat.

Marsh Description

The marsh acreage consisting of about 400 acres is typical of low productive muskrat habitat in the Currituck Sound. Cattails (Typha), threesquare grass (Scirpus) and other good food sources are present in large to medium quantities on about 300 acres while the remaining acreage, yearly increasing from accumulations of dead vegetation building higher marsh, is occupied by coarse herbaceous vegetation, bushes and vines of no value to muskrats. Though water pushed in by southerly winds blankets the land up to 15 inches during certain periods, the area contains numerous guts and ditches which drain the land rapidly and present ideal conditions for a variety of experiments in water level controls. Besides an estimated winter population of about 500 muskrats the unit supports numerous raccoons, some mink, marsh rabbits, deer, a few fox and otter, plenty of deadly cottonmouth moccasins and on higher land a few large canebrake rattlesnakes. No trapping was done during the 1947-48 season but a small amount of experimental trapping during January 1949 produced 54 muskrats (see photo), two of which weighed 4 pounds 2 ounces and 4 pounds 5 ounces respectively. The latter, a big brown male, was the largest muskrat of thousands handled at the Moyock fur shed during the 1948-49 season.

Objectives Of Muskrat Management Investigations

The major objective of the current study is to find out what combination of food, cover, water and other environmental influences produces the largest trappable muskrat surpluses per given acre of habitat.

Past experience shows that unlike mink, foxes and a few other fur animals, rearing muskrats in pens seldom results in profit. But in Canada and many sections of this country including some areas on the Outer Banks near Duck, North Carolina, it has been observed that water impounded to benefit waterfowl has also created excellent muskrat habitat where food and other conditions were present. An aerial photograph made of diked marsh on the Outer Banks (see photo) in 1948 showed large numbers of muskrat houses. To get complete details of similar work in the Northwest River Marsh dikes will be constructed across small guts and ditches and one 20-foot wide creek. The latter is being designed to impound an 80-acre segment of marsh and keep it covered with between 2 and 4 inches of water the year round. To double check results accruing from this investigation a similar project has been established in a 14-acre piece of marsh on private property. Both areas support an abundance of first class muskrat foods.

Water in other study areas will be maintained at marsh level during most of the year and the effects on the muskrat population noted.

Detailed records of population trends will be kept for each project including cost data and any other information thought to be useful to marsh owners and trappers.

Expected Results

Positive forecasts cannot be made because we don't know, but after two years successful experiments should produce harvests of 10 muskrats or more per acre on areas up to 50 acres, and yields between 5 and 10 muskrats per acre as the size of the marsh becomes larger. Disease, droughts, and other causes can wreak havoc, however, in the best managed marshes. For instance, 5,233 acres of tidal marsh owned by the Fish and Wildlife Service at Blackwater, Maryland produced 26,286 muskrats in 1938 but six years later, in 1944, disease and drought reduced the harvest to 1,061 pelts—4 per cent of the 1938 crop. This year in Currituck County many trappers reported "poorest trapping returns" in years.

This Knotts Island trapper was photographed taking up his traps in February after a "poor" season. Knotts Island is famous for muskrats, bass, and waterfowl.

This dike was put up by Joe Wolverton, Elizabeth City, at a cost of only $3.25. It controlls water levels in his marsh, increasing muskrat production.

The Northwest River Marsh also showed a reduction in muskrat populations but except for the fact that high water remained in the marsh during most of the spring and summer, no one knows why the harvest fell off though disease could have been a factor.

It should be understood that some marshes and many inland areas will not be suited to diking but there are thousands of areas that are. Every effort will be made, therefore, to develop practical and simple methods for these areas that the farmer, marsh owner and trapper can use and afford to employ. Though only a few small dikes have been in operation since October, 1948, James and Rogers Tice of Tulls Creek, Currituck County, and Joseph Wolverton (see photo) of Elizabeth City, have already financed some small projects of their own. The Tice Brothers have also allowed the Wildlife Resources Commission to establish experimental dikes on their land and all concerned from now on will be watching these and the State-developed areas to see what happens.

If observations made last winter mean anything, improvements in muskrat habitat likewise benefit waterfowl. During the entire winter, even after food supplies were depleted, flocks of green-winged teal estimated to contain between two and three thousand birds, and several hundred black and mallard ducks used the Northwest River Marsh.

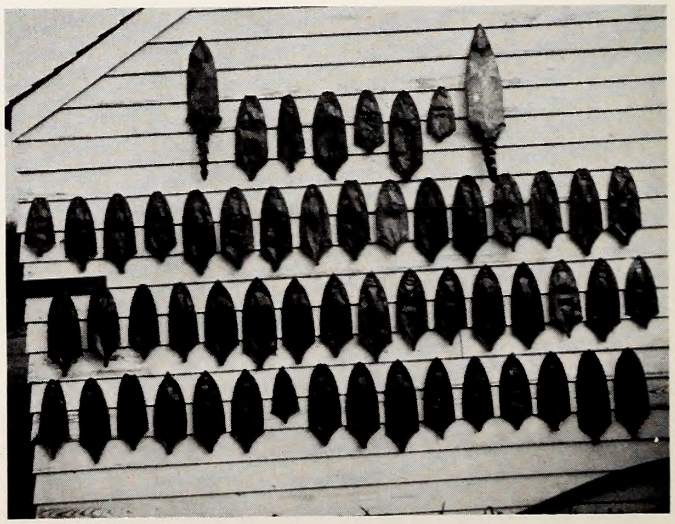
Other major objectives of the investigations embrace research into methods and means of eradicating needlegrass (Juncus roemerianus), sawgrass (Cladium jamaicense) and giant cordgrass (spartina cynosuroides) replacing these with cattails and other favored muskrat foods.

Mowing, burning, flooding and the use of herbicides will be employed. Mowing and burning experiments conducted last year in sawgrass thinned stands, apparently prevented seeding. Burning didn't appear to retard needlegrass but according to the Fish and Wildlife Service, burning followed by flooding will eradicate this vegetation and experiments along this line are now underway. Experiments with sodium arsenite were conducted last summer in selected stands of cordgrass, needlegrass and sawgrass. The vegetation died back but complete results won't be known until at least this summer. Further work with herbicides will be done this year. Studies in cattail and threesquare grass production in their native environment will also be made and a small amount of this work last summer showed seeds blown from cattail spikes onto mud or shallow water produced seedling cattails between six and ten days.

The Northwest River Marsh Fur Animal Field Station will also attempt to uncover information on muskrat carrying copacities in different marshes, extent of harvest safe to remove, breeding seasons, quality of muskrat habitat as determined by muskrat weights, period of primest fur and other factors in muskrat management such as disease, migrations and predation. Of the latter, extensive food habit studies of mink and otter (many local trappers claim the otter is the muskrat's worst enemy) are being made, results of which will be reported later. A food study of the cottonmouth moccasin is also being done. Probably the raccoon is the most destructive muskrat predator in the Northwest River Marsh. Last spring and summer, while apparently searching for young nests, practically every nesting house on the marsh was dug into. However, only one of fifty scats examined contained evidence of young muskrat so we aren't sure yet of the extent of damage.

Out of all this work it is hoped to find not only effective methods to increase muskrat yields over the entire State and thereby create additional income sources but also to educate the trapper and other fur-minded people to use wisely what they already have.

(1) Dozier, Herbert L., Salinity as a Factor in Atlantic Coast Tidewater Muskrat Production. Transactions of the Twelfth North American Wildlife Conference, 1947.



A harvest of furs is the result of intelligent marsh management.

THINK THIS OVER!

By Johnny Mock
The Pittsburgh Press

Why should the hunter govern himself by two separate sets of ethics? If he finds a sneak thief breaking into his car or stealing from his home, he does not hesitate to call the police. When he sees a violator illegally killing a deer or taking more than his lawful limit of rabbits, the hunter, as a rule, simply ignores the incident.

In both instances the crime is the same. It is deliberately a robbery of what rightfully belongs to the hunter or some other license buyer.

Some time ago there appeared in *Outdoor Life* an article entitled "Report Game Law Violations; It isn't Squealing to Protect Your Rights." In part it read:

"An acquaintance of ours, a sportsman of wide experience and good repute, was listening recently to a bitter complaint about game-law violations in his community. The complaint concerned three pairs of wild geese that had nested the previous spring in a section where no wild geese had bred in more than 50 years.

"The temptation had been too much for a certain type of violator and two of the three pairs had been hunted down and shot.

" 'Why, they even went after those geese with deer rifles,' the complainant sputtered. 'Something should have been done about it.'

" 'Did you call a conservation officer?' our friend inquired.

"The squawker recoiled in mixed amazement and indignation.

" 'Call a game warden?' he demanded. 'You mean squeal? I should say not! What do you take me for?'

"Our friend's answer was blunt and to the point. 'I'd say you were a fool and a darned big one at that!' "

Says a writer in the *Michigan Conservationist*:

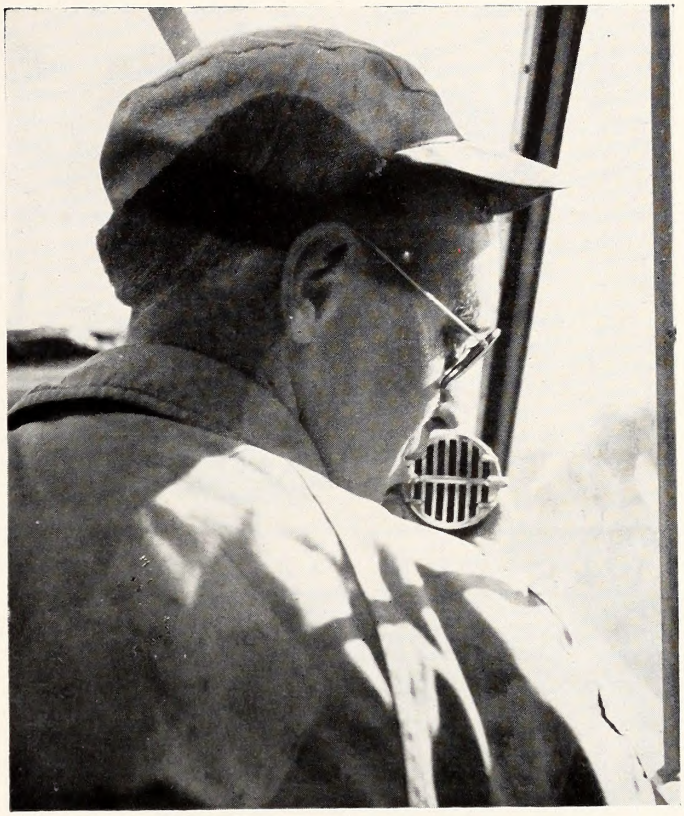
"Any hunter who stands by idly and watches his own wildlife supply being plundered by law-breakers without registering a protest where it will do some good certainly is indulging in some very muddled thinking."

We still insist if every hunter were honest with himself and his fellow gunners, the violations could be brought to an end in a single season.

We realize the hesitancy there is in turning in a violator. The informant is reluctant to appear against the culprit. In some instances there is the fear of retaliation in some form.

To relieve the minds of those who falter when they should be reporting the infraction, we want to point out this to them:

There have been any number of cases where prosecutions were made when appearance against the violator was not necessary. Remember this: The average violator is yellow. Once he knows the officials have the goods on him, he cringes like a whipped cur. His conscience, ordinarily, is very small, but it is often enough to give him away.



Planes, 2-way radios, and enforcement officers alone cannot stop fish and game law violations. Sportsmen must help. (Protector-Pilot Hugh Hines in the Wildlife Commission's patrol plane).

Often, too, the slightest tip can be worked into a successful prosecution.

During the deer season we were eating breakfast one morning when a resident, who was a non-hunter, informed the game protector of an incident he had witnessed the previous night. He had the presence of mind to take the license number of the vehicle.

A check with the State Police revealed the owner living in a distant county. The protector in that district was given the information. At 6 p.m. that same day the violator was hauled before the local squire and fined. The tip was sufficient to pick up the violator with the illegal deer.

A deer hunter was approached by a seedy-looking individual and asked if he would like to purchase a nice six-pointer. Realizing the protectors always were interested in becoming acquainted with that type of individual, the hunter replied he was interested but would have to contact a friend for additional money to pay the price. Result: A professional deer-slayer was picked up with enough evidence and made a very liberal and involuntary contribution to the Game Fund.

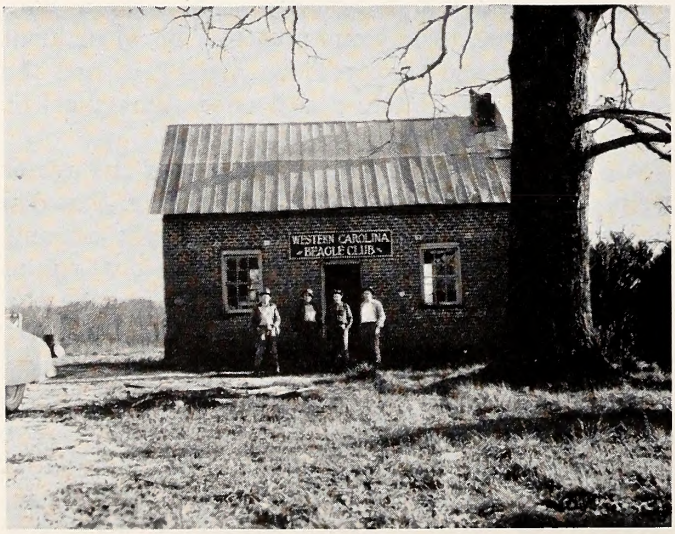
WESTERN CAROLINA BEAGLE TRIALS

The Western Carolina Beagle Club ran its spring trials recently on the Westfeld and Sales farms near Fletcher. The courses were run on the Club's 1500-acre game sanctuary, with over 40 dogs of the 13- and 15-inch class competing.

Winners in the 15-inch class were Arnold Phillips' Smoky Mountain Sport, 1st; Phillips' Smoky Mountain Betty, 2nd; Joe Summery's Battle Creek Jack, 3rd; Summery's Battle Creek Nell, 4th; Phillips' Smoky Mountain Sammy, reserve. Phillips resides in Asheville, Summery in Horse Shoe, N. C.

Judges for the event were Arthur Meadows, Hiddenite, N. C. and J. W. Lyday, Hendersonville. The Western Carolina Beagle Club is affiliated with the Carolina Beagle Association which has 13 clubs in the Carolinas.

Club President Arnold Phillips measures in a beagle for the trials. Instead of weighing-in, beagles are "measured-in" and classified as to height at the shoulders. Beagles are a breed especially bred for rabbit chasing, have a great deal of stamina, and melodic "belling" voices which their owners love to hear.



The WCBC's clubhouse is a brick structure which is over 150 years old, and once was a farmhouse. It stands on the Westfeld and Fletcher farms which the club uses to hold its field trials. Prohibition of hunting on the tract insures an adequate supply of rabbits for field trials.

Left to right are owners and winners in the 13-inch class: Harrell with Joanne Honey Girl, 1st; Atkins with Skyland Leader, 2nd; Neill with Worley Strider, 3rd; Rogers with Queen Myrtle, 4th; and Jones with Carmel Cricket, reserve. During the trials dogs worked in pairs selected by drawing lots. Last fall over 200 beagles competed on the club's trial grounds.

The spring trials were run off despite heavy rains which formed pools in low tracts of ground and made trailing idfficult for the dogs. The group at left is getting ready to turn the dogs loose in pairs.

ANSWERS TO PHOTO QUIZ

1. Canadian Geese
2. Passion Flower or Maypops
3. Young Great Horned Owl
4. Black Bear
5. Cotton Rat
6. Raccoon Tracks
7. Cypress Cones
8. Willet
9. Beech Tree
10. Box Turtle, or Land Terrapin

MECKLENBURG CLUB PURCHASES LAND TRACT

The MECKLENBURG WILDLIFE CLUB, INC. has recently purchased one hundred acres of land in Paw Creek Township eight miles from Charlotte near Moore's Chapel Church.

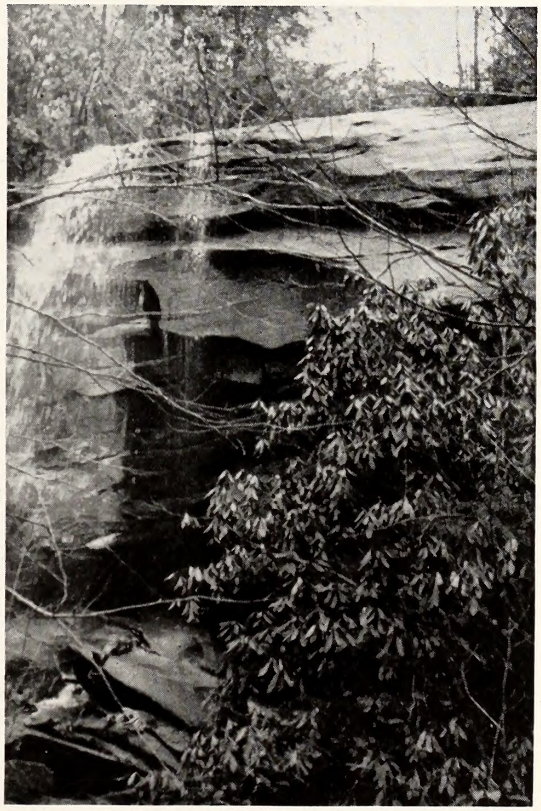
The Club plans the construction of a thirty acre lake and club house. Contract for the lake will be let shortly.

Bicolor lespedeza plants have been planted on the property. All the open land is in korean lespedeza.

According to club officials the site selected is one of unusual beauty.

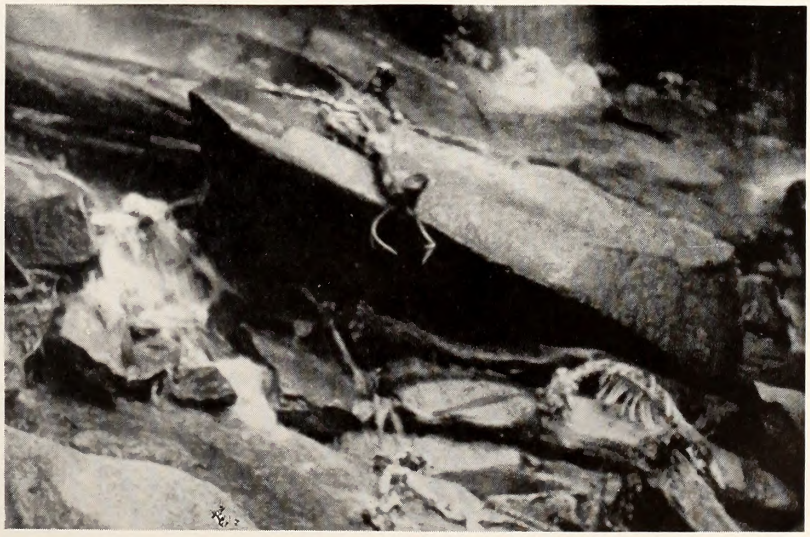
Club officers are W. W. Crymes, President, Clifford Kissiah, Vice President, Robert R. Rhyne, Secretary and Treasurer.

The membership of the club is approximately three hundred members.



WOODLAND TRAGEDY →

The pictures at right show what was once one of nature's tragedies. Malcolm Edwards, Supervisor of Western Wildlife Refuges, took these pictures and then took appropriate action. This waterfall, in Pisgah Game Preserve, has a drop of forty feet to fallen rocks below. The ledge over which the water tumbles is smooth and slippery with algae and moss. Deer came down to the ledge to drink and eat moss, slipped on the glossy surface, and fell over the ledge while scrambling to get on their feet. The bottom picture shows the carcasses of five deer which had been killed in this manner. No one knows how many deer have been killed here. Edwards and his workers felled a large hemlock tree across at the brink of the ledge, anchored the ends, and constructed a fence which not only helps deer back on their feet, but prevents them from sliding to their death on the rocks below the falls.



I DON'T BELIEVE IT!!! HOW ABOUT IT??

IS IT TRUE?? HERE IS YOUR CHANCE TO—

GET IT OFF YOUR CHEST!

EDITORIAL COMMENT, LETTERS TO THE EDITOR AND ANECDOTES

Conducted by Win Donat

One of the most satisfying experiences to happen to us was the receipt of a letter from one of our hunting citizens who, because of a change of heart, is trying, after many years of hunting without a license, to make amends for his past errors.

He wrote us confessing his troubled conscience and asking that we inform him how much he owed in order to square accounts. His letter was entirely sincere and frank as to his past acts and there was nothing we could do other than to forgive and admonish him against a further repetition and to ask that he use his new concept of his duties as a sportsman to influence others to change their ways.

There is a great moral point to this incident. First, it is evident that there is need for a great and extensive reformation in the minds of many of our hunters and fishermen. Not only must beliefs and values concerning our wildlife resources be revised, but the new ideals must take their place and finally, action, concerted action on the part of every one in support of the common cause, must come into being all over North Carolina. Won't YOU help?

Win Donat

Mr. R. M. S. of Newport, North Carolina, asks "Are there any organized coon dog trials in North Carolina . . . or organized coon hunting clubs . . . are permits needed in order to train young dogs on coons in other than the open coon season?"

To the best of our knowledge, there are no organized coon hunting clubs although there are several groups addicted to this sport almost to the exclusion of all others. Likewise, as far as we know, there are no recognized or large coon dog trials that have come to our attention. The laws of North Carolina require that a person taking or attempting to take any wild bird or animal must have a hunting license in his possession, other than that there seems to be no prohibition against running coon dogs in the closed season if the coons or other game is not harmed.

Mr. N. W. of Rural Hall, North Carolina, has several questions which are as follows: "Can fish be taken from public waters by seine or trap for stocking private ponds . . . Where is the nearest bass hatchery . . . can large fish be purchased for stocking private ponds?"

Game fishes may not be seined or trapped from the public waters although seines may be used for non-game fishes in certain counties during July and August, and then only on special permit and under the direct supervision of the Game Protector. The hatchery nearest your part of the state is probably the one located at Marion, North Carolina. At present, the laws of North Carolina do not permit the sale of any game fish other than for propagating purposes and it is doubtful that you could buy the large fish you mention from the hatchery.

Dr. N. M. H. of Buxton, Cape Hatteras, North Carolina, voices a question which is in the minds of many people, not only of the area concerned, but throughout the state, when he asks the following: "People on the Outer Banks claim that more geese die on the bird refuge at Pea Island each year from disease and starvation than would be the case if hunting were allowed. Can you give me information that will clarify this issue?"

The question of dying geese on the Pea Island Refuge is one that is receiving attention from sportsmen all over the East, and is a condition which is receiving specific attention on the part of various agencies concerned in order to adopt whatever measures possible in order to control or pre-

vent these conditions from causing further decimation of the flocks using this refuge. In order to acquaint our sportsmen with the steps that have been taken, we wish to inform them that twenty sick geese have been collected from the refuge in question this year, eight of which were sent to the Poultry Disease Laboratory of North Carolina State College, Raleigh, North Carolina, and twelve were sent to the Patuxent Research Refuge at Laurel, Maryland, operated by the U. S. Fish and Wildlife Service. Whether or not it has any bearing on the case in question, all twenty birds were juveniles or birds of the past year's breeding. While there have been no reports from the federal laboratory, the diagnosis of the birds sent to State College show that they were suffering from a parasitic infestation which, in this case, affected the kidneys and is an affliction found most often in geese. The disease is called *Renal Coccidiosis*. The eggs of this parasite are discharged in the feces of sick birds into the water where they hatch and the new organisms are then taken in through the mouth of the healthy birds. In this manner the disease is transmitted.

The sick birds have the appearance of being weak and are incapable of flight. Examination of the internal organs show the flesh to be pale and the kidneys have white spots on them. There is no loss of appetite in the sick birds until they become too weak to move about in search of food. It might be said that this disease is fatal in 80 to 90 per cent of the cases.

While the parasite has been definitely identified in the geese sent to State College, there has been no expression as to actual conditions existing at Pea Island which would give a clue as to the remedy. It may be possible that certain birds are carriers of the disease as certain humans are the carriers of tuberculosis, because it is thought that the disease is incapable of living over from season to season without the birds which frequent the area. It may be just as possible that there is a shortage of a specific food, mineral, or vitamin in the diet of the geese which would have the effect of building up the resistance of the birds to this disease. However, until studies which are now being undertaken by the agencies concerned can be brought to a conclusion and show the exact nature of the causes, it would be extremely unwise to take any steps which would be based on the lack of accurate information. We will continue to make every effort to keep the sportsmen informed as to progress made towards the solution of this problem.

Mr. J. C. T. of Charlotte, North Carolina, is following us up by raising a question on an answer we published in the March issue, in which we stated that the food fish eat some times effects the flavor of their flesh. He asks, "What are some things that can be done to remove the muddy flavor of some fish?"

In my personal experience I have found that large bass are a great deal more palatable if they are skinned and then put down overnight in a liberal sprinkling of salt, which is, of course, washed off the next day when the fish are prepared for cooking. Skinning seems to be the popular answer to this particular question and use of salt water, to which vinegar has been added, is another popular method. However, it is entirely possible that some individual fish will not entirely lose that muddy flavor. Since the gentleman raised a question about boiling fish, I should like to say that there are to my knowledge no fresh-water fish found in North Carolina which are helped by boiling. We would almost rather have the muddy flavor.

Mr. David E. Turner, of Valdese, N. C., asks why "certain mistakes were made in handling applications and permits for the organized hunts on Wildlife Management Areas in Western North Carolina during the 1948 season."

This is a straightforward question and deserves a straight-from-the-shoulder answer: To handle and process several thousands of applications, account for the money sent in with the applications, hold drawings, issue permits, and do all of the other detailed work in connection with the 1948 organized hunts, a small organization consisting of R. B. Armfield, Supervisor of Wildlife Lands, and one lady clerk was established.

After work had gotten well under way, Mr. Armfield dropped out, and it became necessary to replace him with a new man who was not familiar with the established system of doing the job. During this transition period some unavoidable and unintentional mistakes were made. We shall profit from these errors, and thereby assure both ourselves and the sportsmen of North Carolina that every citizen is given a square deal and an opportunity for successful participation in these hunts.

We appreciate the opportunity afforded by Mr. Turner to explain this to our interested friends.

Mr. L. A. A. of Washington, North Carolina, has a request which it is embarrassing for us not to be able to fulfill directly, but in which we can help him by making a good recommendation. He asks "Do you publish a booklet which gives the actual values of wildlife to the farmer?"

While we are now in the process of compiling material for a booklet of this type, it is not as yet on our shelves. Therefore, we recommend that this gentleman write the Wildlife Management Institute, Washington, D. C., requesting a copy of a recent publication entitled "The Farmer and Wildlife" by Durward Allen, as this publication is one of the finest things of its sort that has been made available for general use and it is to be heartedly recommended for all people who have an interest in conservation as well as the actual values of our wildlife resources.

Mr. J. B. M. of Asheville, North Carolina, wants to know if "using rifled slugs in my shotgun which is equipped with a pattern control devise on the muzzle will injure either the device or the gun?"

No, rifled slugs may be used in all types of choke control devices without injuring either the device or the barrel, although we would suggest that whenever possible the choke be opened up or that an open tube be used.

Mrs. R. M. L. of Henderson, North Carolina, asks "Is there any pamphlet which describes the various mushrooms which are edible?"

We would suggest that you enclose twenty-five cents (no stamps) to the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C., and ask for the Department of Agriculture Circular No. 143, entitled "Some Common Mushrooms and How to Know Them."

L. to R. are T. D. Watson, Dr. Kelly E. Bennett, and Floyd Cunningham with 18 bass weighing 44½ lbs. after 5 hours fishing in Lake Fontana. —(Photo courtesy Swain County Wildlife Club).

THE FISHING OUTLOOK FOR MATTAMUSKEET

Several thousands of fishermen will stop off at Lake Mattamuskeet this summer to catch fish. The chances are very good that they will make some worthy catches, but their efforts will not produce the fine strings of bass the fishermen took away a few years ago. Sportsmen will describe the situation thus: "It just isn't what it used to be." Fisheries experts would call it "succession in the abundance of game fishes."

Whatever the words applied to fishing conditions at Lake Mattamuskeet, there has been a process going on for several years which no one has been able to explain satisfactorily. Apparently, Lake Mattamuskeet is going the way of many other bodies of water such as reservoirs. Newly impounded waters often produce increasingly excellent fishing for a few years, and then begin a period of slowly decreasing game fish abundance and a more or less corresponding increase in rough fish such as carp. Lake Mattamuskeet may be compared with a newly impounded reservoir in that it has been only recently filled with water.

Prior to 1934, Lake Mattamuskeet had been drained and an attempt had been made to farm the wide, shallow basin. The farming project failed, however, and pumping operations which had served to drain the area were discontinued. The basin was allowed to refill, and in 1934 the U. S. Government acquired a 40,000 acre tract which now comprises the Lake Mattamuskeet National Wildlife Refuge.

Records for the years 1934 and 1935 are incomplete, but far more bass were caught during those years than any other species. Bass fishing was already on the decline in 1936 when the first complete records were kept, but bass during that year comprised 29 per cent of all fish caught. Crappies provided 35 per cent of the total take, white perch 13 per cent, various sunfishes 7 per cent, and carp only 5 per cent.

Crappies increased rapidly during the next few years, providing 68-70 per cent of the total catch from 1938 to 1940. Following this peak crappies declined until in 1945 they furnished only 2.6 per cent of the total take. During the time the crappies were declining, the sunfish and white perch increased until in 1943 the sunfishes (warmouth bass, pumpkinseeds and bream) comprised 36 per cent of the catch, white perch 23 per cent, and crappies only 29 per cent.

By 1944 white perch had increased to 44 per cent of the catch, the highest percentage of frequency attained by any species that year. In 1945 the white perch population had built up to a peak of 80 per cent of fish caught, with other game species showing a marked decline. At about this time carp began to come into prominence. In 1946 white perch were still high with 45 per cent, but carp had increased to 39 per cent. In 1947 the carp catch was 40 per cent of the total take, exceeding the take of white perch which had dropped to 39 per cent.

Throughout a 12-year period from 1934 through 1947, the average catch per fisherman per day has remained high, and will perhaps continue high, although the above illustrates what type of fish can be expected to show up in the creel most frequently.

Mills Studio Photo

WHY WE NEED LAW ENFORCEMENT

If fishing is not all you would like it to be in your favorite stream, the above picture may point out the reason why. This fish trap completely blocked off Harmon Creek in Yadkin County, and was found by Game Protectors Hugh Robertson and Frank Mackie. What chance do sporting anglers have when game hogs practice such crimes against the people of North Carolina? Over 300 fish traps have been destroyed by fish and game protectors this year. Do your part and report illegal traps and nets!

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